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Research summary

Broadly, my scientific goal is to achieve a better understanding of the structural and functional organisation of the brain at a systems level. My current research interests include: (i) mathematical modelling of diffusion weighted MR; (ii) comparisons of in-vivo, ex-vivo, and histological techniques in humans and non-human primates; (iii) human-macaque comparative anatomy; (iv) modelling detailed microstructure with novel MR pulse sequences; (v) modelling the topographic organisation of brain connections and their relationship to brain function; (vi) models of individual variation in brain function.

Academic positions

2017- Lecturer in Engineering
St Hilda's College, Oxford, UK
2016- Head of Diffusion Analysis
FMRIB Centre, Oxford, UK
2015- Associate Professor
University of Oxford
2014-2015 University Research Lecturer
University of Oxford
2014-2019: MRC Career Development Fellow
NDCN, FMRIB Centre, Oxford, UK
2009-2013: Research Fellow (self-funded on an MRC grant)
FMRIB Centre, Oxford, UK
2006-2009: Post-doctoral Researcher
FMRIB Centre, Oxford, UK
2003-2006: PhD candidate
INSERM & Ecole Centrale Paris, Paris, France

Non-Academic position

May-Dec 2002: Internship
General Electric Medical Systems Paris, France
X-Ray tomography

Education

Ph.D. NeuroImaging, *Ecole Centrale Paris*, 2007
M.Sc. Image and signal processing, *Ecole Normale Supérieure de Cachan*, 2002
Ingénieur Ecole Centrale Paris (Applied Mathematics), 2002 (MSc-equivalent, see www.ecp.fr)

Grants

PI: NIH Supplement, HCP Aging, \$563K USD, 2017-2020
PI: MRC Proximity to discovery, "Deep learning knowledge exchange", £3,435K GBP, August 2015
PI: 5 years Fellowship, Career Development Award from the MRC (UK), "Imaging the spatial organisation of brain connections", ~£800K GBP 2014-2019
Co-I: 3 year EPSRC grant (UK), "Anatomy-driven brain connectivity mapping", £550K GBP, 2014-2017
Co-I: 1 year MRC Confidence in concept grant (UK), £34K GBP 2014-2015
Co-I: 1 year Oxford Invention Fund, £34K GBP 2014-2015
Co-I: 5 years Grant from the Canadian Institute of Health Research, (~\$600K CAD) 2009-2014
Co-I: 3 years Grant from the Medical Research Council (UK), ~£400K GBP, 2009-2012
PI: 1 year Grant from the Association for Research against Cancer (France), €12K EUR, 2005
Studentship (3 years) from Moroccan government (1999-2002, ~8K GBP)

Awards and prizes

Thomas Willis Intermediate Career Researcher prize (first prize, Oxford 2017, £1000)
Thomas Willis Junior Career Researcher prize (runner up, Oxford 2013, £500)

Best Methods Paper Award in *NeuroImage*, OHBM (Chicago) 2007
Best Poster Award, ISMRM (Seattle) 2006
Winner of the National Olympiads of Mathematics (\$10,000 USD), Morocco 1997

Intellectual Property

Perception Loss Detection. Co-Inventor. UK Patent (GB1209638.4)
FMRIB Software Library v4. Co-Inventor. Isis-3497
FMRIB Software Library v5. Co-Inventor. Isis-9564

Reviewer

Technical journals:

PLoS Comp Biol, Nature Methods, NeuroImage, Magnetic Resonance in Medicine, Medical Image Analysis, IEEE Transactions in Medical Imaging, Frontiers in Brain Imaging Methods, J Magnetic Resonance in Imaging

Non-technical journals:

Science, Nature Neuroscience, PNAS, eLife, J. Neuroscience, Nature Communications, J Neurophysiology, Human Brain Mapping, PLoS ONE, Cerebral Cortex, Cortex, Brain Structure and Function, Biological Psychiatry

Grants reviewer:

Wellcome Trust, UK Medical Research Council, Action Medical Research, Association Nationale de la Recherche, Association Française contre les Myopathies, Swiss National Science Foundation, Binational Science Foundation, TRAIL, NWO-WOTRO Science for Global Development.

Editor/committees

PLoS Comp Biol, (associate editor)
NeuroImage, (editorial board 2012-2017)
Frontiers in Brain Imaging Methods (reviewing editor)
MICCAI CDMRI, (program committee)
Departmental Graduate Studies committee

Teaching

Graduate teaching

Organisation and teaching at the LSI/ONBI-CDT, Oxford, 2014-
(Linear Algebra, Fourier Analysis, Image Analysis, Bayesian Inference)

Easy Maths for imaging, FMRIB Centre Graduate Program, 2006-
(Linear Algebra, Statistics)

Advanced Maths for imaging, FMRIB Centre Graduate Program, 2007-
(Incl. Bayesian analysis, Optimization, Statistics, etc.)

Undergraduate teaching

Maths tutorials, Engineering, St Hilda's College Oxford, 2017-

Oxford Biomedical Sciences 2016-
(Matlab, Basics in Mathematics)

Pure Mathematics, Ecole Centrale Paris, 2003-2006
(Lebegues integrals, distribution theory, holomorphic functions, path integrals)

Image Processing, Ecole Centrale Paris, 2005-2006
(Basic image processing practicals)

Teaching at conferences/workshops/international courses

Organisation (either main or co-organizer) and teaching at the annual FSL course, 2007-present
(~150 attendees/year, 5 days course including lectures and practical sessions)

Organisation (main organizer) and teaching of several mini-FSL courses (Mannheim 2009, Montreal 2009, Montreal 2010, Hungary 2012)

(~30 attendees, 2 days course including lectures and practical sessions)

Organisation (main organizer) and teaching of a QBIN workshop (Montreal 2010)

Conference Educational course lectures: OHBM 2008, OHBM 2011, ISMRM 2011

(~30min lectures)

Organisation (main organizer) and teaching at the ESMRMB Diffusion Course (Oxford 2010)

Organisation (main organizer) and teaching at British Neuroscience Association workshops: BNA 2009, BNA 2013, BNA 2015

Lectures at summer/autumn schools (1-2h lectures): Heidelberg 2007, Schönburg 2007, Caen 2009, Copenhagen 2009.

Supervision

current

Emmanuel Vallée – D Phil student (graduating Dec 2017)

Jonathan Hadida – D Phil student (graduating Dec 2017)

Amy Howard – D Phil student (2017-)

Luke Baxter – D Phil student (2016-)

Daan Wesselink – D Phil student (2016-)

Michiel Cottaar – Post doc (2014-)

Matteo Bastiani – Post doc (2014-)

'Oiwi Parker Jones – Post doc (Jan 2015-)

past

Rosario Sance – visiting MSc student (2008)

Alex Savio – visiting MSc student (2011)

Christoph Treiber – rotation MSc student (2013)

Stamatios Sotiropoulos – Post doc (2010-2014)

Wilfred Lam – D Phil (graduated 2014)

Riham Satti – M Phil (graduated 2014)

Oliver Meacock – rotation MSc student (2015)

Laura Igual – Post doc (2015-2016)

Nadir Basma – visiting PhD student (2017)

Ido Tavor – Post doc (2014-2017)

Thesis examiner

- D Phil transfer/confirmation:

Adrian Groves (FMRIB) (2008)

Courtney Birtch (FMRIB) (2010)

Franz Neubert (Exp Psych) (2013)

Faysal Khan (OHBA) (2013)

Moisés Hernández Fernández (FMRIB) (2014)

Wenchuan Wu (FMRIB) (2015)

Patrick Pfantz (FMRIB) (2016)

Alexandra Constantinescu (FMRIB) (2016)

- D Phil/PhD examinations

Wey Chern Cheng (FMRIB) (2013)

Uran Ferizi (UCL) (Nov 2014)

Shlomi Lifshits (Tel Aviv University) (2015)

Franz Neubert (Exp Psych) (2015)
Faysal Khan (OHBA) (2015)
Karen Ambrosen (Technical University of Denmark) (2017)
Wenchuan Wu (FMRIB) (2017)

Public engagement

Oxford Alumni meeting, Oxford (2013)
Public lecture, St Cross College, Oxford (2015)
Public lecture, St Edmund Hall College, Oxford (2015)
SET for Britain, sharing science with MPs, Westminster (2016)
Oxford Technology Showcase, Said Business school, Oxford (2016)
Talking about brains to pre-school children (4 y.o.), Sanfield Nursery, Oxford (2017)
Performance in a play about the brain at *Curiosity Carnival* (Oxford, 2017)

Invited lectures

La Havana (Workshop, 2006)
London (Lab seminar, 2007)
Berlin (Conference, 2007)
Oslo (Lab seminar, 2008)
Sydney (Workshop, 2008)
New York (Workshop, 2008)
Boston (Lab seminar, 2008)
Umea (Workshop, 2008)
Copenhagen (Workshop, 2009)
Jülich (Lab seminar, 2009)
Newcastle (Lab seminar, 2009)
London (workshop, 2009)
Leipzig (Workshop, 2010)
Dartmouth (Workshop, 2012)
Geneva (Lab seminar, 2013)
London (Lab seminar, 2013)
Paris (Workshop, 2013)
Ghent (Workshop, 2013)
Berlin (Workshop, 2014)
Toronto (Workshop, 2015)
Edinburgh (Workshop, 2015)
London (Conference, 2015)
Kings College, London (Lab seminar, 2016)
Paris (Workshop, 2016)
Kings College, London (Lab seminar, 2016)
Paris (Workshop, 2017)
Zürich (Workshop, 2017)

Publications

Published journal papers: 97, h-index = 50 (Google Scholar)

Published journal papers (first or last author):

Hadida J, Sotiropoulos SN, Abey Suriya RG, Woolrich MW*, **Jbabdi S*** (2017)
Bayesian Optimisation of Large-Scale Biophysical Networks
Biorxiv (doi: <https://doi.org/10.1101/170779>)

Mollink J, Kleinnijenhuis M, van Cappellen AM; Sotiropoulos SN, Cottaar M, Mirfin C, Heinrich MP, Jenkinson M, Pallegage-Gamarallage M, Ansorge O, **Jbabdi S***, Miller KL* (2017)

Evaluating fibre orientation dispersion in white matter: Comparison of diffusion MRI, histology and polarized light imaging
NeuroImage (accepted)

O'Muirheartaigh J, **Jbabdi S** (2017)
Concurrent white matter bundles and grey matter networks using independent component analysis
NeuroImage (accepted)

Kleinnijenhuis M, Mollink J, Lam WW, Kinchesh P, Khrapitchev AA, Smart SC, **Jbabdi S***, Miller KL* (2017)
Choice of reference measurements affects quantification of long diffusion time behaviour using stimulated echoes
Magnetic Resonance in Medicine (accepted)

Parker Jones O, Voets N, Adcock J, Stacey R, **Jbabdi S** (2016)
Resting connectivity predicts task activation in pre-surgical populations
NeuroImage Clinical 13:378-385

Tavor I, Parker Jones O, Mars RB, Smith SM, Behrens TE, **Jbabdi S** (2016)
Task-free MRI predicts individual differences in brain activity during task performance
Science 352(6282):216-20

Sotiropoulos SN, Hernández-Fernández M, Vu A, Andersson JL, Moeller S, Auerbach EJ, Yacoub E, Lenglet C, Ugurbil K, Behrens TE*, **Jbabdi S*** (2016)
Spherical Deconvolution by Data Fusion: Combining 3 and 7 Tesla Diffusion MRI for Improved Fibre Orientation Estimation
Neuroimage 134:396-409

Jbabdi S, Sotiropoulos SN, Haber SN, Van Essen DC, Behrens TE (2015)
Measuring macroscopic connections in vivo
Nature Neuroscience 18(11):1546-55

Lam WW, **Jbabdi S***, Miller KL* (2014)
A Model for Extra-axonal Diffusion Spectra with Frequency-Dependent Restriction
Magnetic Resonance in Medicine doi: 10.1002/mrm.25363

Jbabdi S & Behrens TE (2013)
Long-range connectomics
Ann N Y Acad Sci doi: 10.1111/nyas.12271

Jbabdi S, Lehman JF, Haber SN*, Behrens TE* (2013)
Human and monkey ventral prefrontal fibers use the same organizational principles to reach their targets: tracing versus tractography
Journal of Neuroscience 33(7):3190-201

Jbabdi S, Sotiropoulos SN, Behrens TE (2013)
The topographic Connectome
Curr Opin Neurobiol (23(2))207-215

Bartsch AJ, Geletneky K, **Jbabdi S** (2013)
The temporo-parietal fiber intersection area (TPFIA) and Wernicke's perpendicular fasciculus (WpF)
Neurosurgery 73(2):E381-2

Jbabdi S, Behrens TE (2012)
Specialization: The connections have it

Nature Neuroscience 15(2):171-172

Jbabdi S, Sotiropoulos SN, Savio AM, Graña M, Behrens TE (2012)
Model-based analysis of multi-shell diffusion MR data for tractography: How to get over fitting problems
Magnetic Resonance in Medicine 68(6):1846-55

Sotiropoulos S, Behrens TE, **Jbabdi S** (2012)
Ball and Rackets: Inferring Fibre Fanning from Diffusion-weighted MRI
NeuroImage 60(2):1412-1425

Jbabdi S and Johansen-Berg H (2011)
Tractography: Where do we go from here?
Brain Connectivity 1(3):169-83

Jbabdi S, Behrens TE, Smith SM (2010)
Crossing fibres in tract-based spatial statistics
NeuroImage 49(1):249-56.

Jbabdi S, Woolrich MW, Behrens TE (2009)
Multiple-subjects connectivity-based parcellation using hierarchical Dirichlet process mixture models
NeuroImage 44:373-384

Jbabdi S, Bellec P, Toro R, Daunizeau J, Péligrini-Issac M, Benali H. (2008)
Accurate anisotropic fast marching for diffusion-based geodesic tractography
Int J Biomed Imaging 2008:320195

Mitsis GD, **Jbabdi S** (2008)
Bayesian model order selection for nonlinear system function expansions
IEEE Eng Med Biol;2008:2165-8

Jbabdi S, Woolrich MW, Andersson JL, Behrens TE (2007)
A Bayesian framework for global tractography
NeuroImage 37:116-129

Jbabdi S, Mandonnet E, Duffau H, Capelle L, Swanson KR, Péligrini-Issac M, Guillemin R, Benali H. (2005)
Simulation of anisotropic growth of low-grade gliomas using diffusion tensor imaging
Magnetic Resonance Medicine 54:616-624

Major contributions:

Bastiani M, Cottaar M, Kranian K, Ghosh A, Zhang H, Alexander DC, Behrens TE, **Jbabdi S**, Sotiropoulos SN (2017)
Improved tractography using asymmetric fibre orientation distributions
NeuroImage (accepted)

Akram H, Sotiropoulos SN, **Jbabdi S**, Georgiev D, Mählknecht P, Hyam J, Foltynie T, Limousin P, De Vita E, Jahanshahi M, Hariz M, Ashburner J, Behrens TE, Zrinzo L (2017)
Subthalamic deep brain stimulation sweet spots and hyperdirect cortical connectivity in Parkinson's disease
NeuroImage (accepted)

Foxley S, **Jbabdi S**, Clare S, Lam WW, Ansorge O, Douaud G, Miller KL (2014)
Improving diffusion-weighted imaging of post-mortem human brains: SSFP at 7T

NeuroImage 102 Pt 2:579-89

Wiech K, **Jbabdi S**, Lin CS, Andersson JL, Tracey I (2014)

Differential structural and resting state connectivity between insular subdivisions and other pain-related brain regions

Pain 155(10):2047-55

Robinson EC, **Jbabdi S***, Glasser MF*; Andersson J, Burgess GC, Harms MP, Smith SM, Van Essen DC, Jenkinson M (2014)

MSM: a new flexible framework for Multimodal Surface Matching

NeuroImage 100:414-26

Mhuircheartaigh RN*, Warnaby C*, Rogers R, **Jbabdi S**, Tracey I (2013) Slow Wave Activity Saturation And Thalamocortical Isolation During Propofol Anaesthesia In Humans

Science Transl Med 208ra148

O'Reilly JX*, Croxson PL*, **Jbabdi S**, Sallet J, Noonan MP, Mars RB, Browning PG, Wilson CR, Mitchell AS, Miller KL, Rushworth MFS, Baxter MG (2013)

Causal relationship between anatomical and functional connectivity: Evidence from fMRI in rhesus monkeys before and after corpus callosum transection

PNAS 110(34):13982-7

O'Reilly JX, **Jbabdi S**, Rushworth MFS, Behrens TE (2013)

Brain systems for probabilistic and dynamic prediction: computational specificity and integration

PLoS Biology 11(9):e1001662

Sotiropoulos SN, **Jbabdi S**, Xu J, Andersson JL, Moeller S, Auerbach EJ, Glasser MF, Sapiro G, Jenkinson M, Feinberg D, Yacoub E, Lenglet C, Van Essen D, Ugurbil K and Behrens TE (2013)

Advances in diffusion MRI acquisition and processing in the Human Connectome Project

NeuroImage S1053-8119(13)00551

Craddock RC, **Jbabdi S**, Yan CG, Vogelstein J, Castellanos FX, Di Martino A, Kelly C, Heberlein K, Colcombe S, Milham MP (2013)

Imaging Functional And Structural Connectomes At The Macroscale

Nature Methods 10(6):524-39

Blumensath T, **Jbabdi S**, Glasser MF, Van Essen DC, Ugurbil K, Behrens TE, Smith SM (2013)

Spatially constrained hierarchical parcellation of the brain with resting-state fMRI

NeuroImage 76:313-24

Sotiropoulos SN, **Jbabdi S**, Andersson JL, Woolrich MW, Ugurbil K, Behrens TE (2013)

RubiX: Combining Spatial Resolutions for Bayesian Inference of Crossing Fibres in Diffusion MRI

IEEE TMI 32(6):969-82

Homola GA, **Jbabdi S**, Beckmann CF, Bartsch AJ (2012)

A Brain Network Processing the Age of Faces

PLoS ONE 7(11): e49451

O'Reilly JX, **Jbabdi S**, Behrens TE (2012)

How can a Bayesian approach inform neuroscience?

European Journal of Neuroscience 35 1169:1179

Miller KL, McNab JA, **Jbabdi S**, Douaud G (2011)

Diffusion tractography of post-mortem human brains: Optimization and comparison of spin echo and steady-state free precession techniques

NeuroImage 59(3)2284:97

- Cerliani L, Thomas RM, **Jbabdi S**, Siero JC, Nanetti L, Crippa A, Gazzola V, D'Arceuil H, Keysers C (2011)
Probabilistic tractography recovers a rostrocaudal trajectory of connectivity variability in the human insular cortex.
Hum Brain Mapp 33(9):2005-34
- Miller KL, Stagg CJ, Douaud G, **Jbabdi S**, Smith SM, Behrens TE, Jenkinson M, Chance SA, Esiri MM, Voets NL, Jenkinson N, Aziz TZ, Turner M, Johansen-Berg H, McNab JA (2011)
Diffusion imaging of whole, post-mortem human brains on a clinical MRI scanner
NeuroImage 57(1):167-81.
- Mars R, **Jbabdi S**, Sallet J, O'Reilly JX, Croxson P, Olivier E, Noonan M, Bergmann C, Mitchell A, Baxter M, Behrens TE, Johansen-Berg H, Tomassini V, Miller K and Rushworth M (2011)
Diffusion-weighted imaging tractography-based parcellation of the human parietal cortex and comparison with human and macaque resting state functional connectivity
Journal of Neuroscience 31(11):4087-100.
- Douaud G, **Jbabdi S**, Behrens TE, Menke R, Gass A, Monsch A, Rao A, Whitcher B, Kindlmann G, Matthews PM, Smith SM (2011)
DTI measures in crossing-fibre areas: Increased diffusion anisotropy reveals early white matter alteration in MCI and mild Alzheimer's disease
NeuroImage 55(3):880-90.
- Menke RA, **Jbabdi S**, Miller KL, Matthews PM, Zarei M (2010)
Connectivity-based segmentation of the substantia nigra in human and its implications in Parkinson's disease
NeuroImage 52(4):1175-80.
- Eickhoff SB, **Jbabdi S**, Caspers S, Laird AR, Fox PT, Zilles K, Behrens TE (2010)
Anatomical and Functional Connectivity of Cytoarchitectonic Areas within the Human Parietal Operculum
Journal of Neuroscience 30(18):6409-6421.
- Tomassini V, **Jbabdi S**, Kincses ZT, Bosnell R, Douaud G, Pozzilli C, Matthews PM, Johansen-Berg H (2010)
Structural and functional bases for individual differences in motor learning
Hum Brain Mapp 32(3):494-508
- McNab JA, **Jbabdi S**, Deoni SC, Douaud G, Behrens TE, Miller KL. (2009)
High Resolution Tractography in Fixed Human Brain Using Diffusion-Weighted Steady State Free Precession
NeuroImage 46(3):775-85
- Woolrich MW, **Jbabdi S**, Patenaude B, Chappell M, Makni S, Behrens T, Beckmann C, Jenkinson M, Smith SM. (2009)
Bayesian Analysis of Neuroimaging data in FSL
NeuroImage 45:S173-86
- Bridge H, Thomas O, **Jbabdi S**, Cowey A (2008)
Changes in connectivity after visual cortical brain damage underlie altered visual function
Brain 131:1433-1444
- Tomassini V, **Jbabdi S**, Klein JC, Behrens TE, Pozzilli C, Matthews PM, Rushworth MF, Johansen-Berg H. (2007)

DWI tractography-based parcellation of the human lateral premotor cortex identifies dorsal and ventral sub-regions with anatomical and functional specializations

Journal of Neuroscience 27:10259-10269

Chesneau S, **Jbabdi S**, Champagne-Lavau M, Giroux F, Ska B. (2007)

Comprehension de texte, ressources cognitives et vieillissement

Revue de Psychologie et Neuropsychiatrie 5:47-64

Behrens TE, Johansen-Berg H, **Jbabdi S**, Rushworth MF, Woolrich MW. (2007)

Probabilistic diffusion tractography with multiple fibre orientations: What can we gain?

NeuroImage 34:144-55

Mandonnet E, **Jbabdi S**, Taillandier L, Galanaud D, Benali H, Capelle L, Duffau H. (2007)

Preoperative estimation of residual volume for WHO grade II glioma operated with intraoperative functional mapping

NeuroOncology 9:63-69

Minor contributions

Parker AJ*, Coullon *, Sanchez-Panchuelo R, Francis S, Clare S, Kay D, Duff E, Minini L, **Jbabdi S**, Schluppeck D, Bridge H (2017)

Geospatial statistics of high field functional MRI reveal topographical clustering for binocular stereo depth in early visual cortex

Biorxiv (doi: <https://doi.org/10.1101/160788>)

Alfaro-Almagro F, Jenkinson J, Bangerter NK, Andersson JL, Griffanti L, Douaud G, Sotiropoulos SN, **Jbabdi S**, Hernandez Fernandez M, Vallee E, Vidaurre D, Webster M, McCarthy PD, Rorden C, Daducci A, Alexander DC, Zhang H, Dragonu I, Matthews P, Miller KL, Smith SM (2017)

Image Processing and Quality Control for the first 10,000 Brain Imaging Datasets from UK Biobank

Biorxiv (doi: <https://doi.org/10.1101/130385>)

Warnaby CE*, Sleight J*, Hight D, **Jbabdi S**, Tracey I (2017)

Identification of Slow Wave Activity Saturation during Surgical Anesthesia reveals a Signature of Neural Inertia in Humans

Anesthesiology (accepted)

Hutter J, Tournier JD, Price AN, Cordero-Grande L, Hughes EJ, Bastiani M, Steinweg J, Sotiropoulos S, Shaihan M, **Jbabdi S**, Andersson J, Edwards AD, Hajnal JV (2017)

Time-efficient and flexible design of optimised multi-shell HARDI diffusion

Magnetic Resonance in Medicine (accepted)

Cardenas AM, Sarlls JE, Kwan JY, Bageac D, Gala ZS, Danielian LE, Ray-Chaudhury A, Wang H, Miller KL, Foxley S, **Jbabdi S**, Welsh RC, Floeter MK (2017)

Pathology of callosal damage in ALS: an ex-vivo, 7T diffusion tensor MRI study

NeuroImage Clinical (accepted)

Kolasinski J, Makin TR, Logan J, **Jbabdi S**, Clare S, Stagg CS, Johansen-Berg H (2016)

Rapid remapping of human somatosensory cortex

eLife (accepted)

Miller KL, Alfaro-Almagro F, Bangerter NK, Thomas DL, Yacoub E, Xu J, Bartsch AJ, **Jbabdi S**, Sotiropoulos SN, Andersson JLR, Griffanti L, Douaud G, Okell TW, Weale P, Dragonu I, Garratt S, Hudson S, Collins R, Jenkinson M, Matthews PM, Smith SM (2016)

Multimodal population brain imaging in the UK Biobank prospective epidemiological study

Nature Neuroscience (doi: 10.1038/nn.4393)

- Kikkert S, Kolasinski J, **Jbabdi S**, Tracey I, Beckmann CF, Johansen-Berg H, Makin TR (2016)
Revealing the neural fingerprints of a missing hand
eLife (doi: 10.7554/eLife)
- Donahue C, Sotiropoulos SN, **Jbabdi S**, Hernandez-Fernandez M, Behrens TE, Dyrby T, Kennedy H, Knoblauch K, Coalson T, Glasser MF, Van Essen DC (2016)
Using Diffusion Tractography to Predict Cortical Connection Strength and Distance: A Quantitative Comparison with Tracers in the Monkey
Journal of Neuroscience 22;36(25):6758-70
- Barron HC, Vogels TP, Emir UE, Makin TR, O'Shea J, Clare S, Jbabdi S, Dolan RJ, Behrens TE (2016)
Unmasking latent inhibitory connections in human cortex to reveal dormant cortical memories
Neuron S0896-6273(16)00168-9
- Kolasinski J, Makin T, **Jbabdi S**, Clare S, Stagg C, Johansen-Berg H (2015)
Investigating the stability of fine-grain digit somatotopy in individual human participants
Journal of Neuroscience 36(4):1113-27
- Warnaby CE, Seretny M, Ni Mhuircheartaigh R, Rogers R, **Jbabdi S**, Sleigh J, Tracey I (2015)
Anaesthesia-induced suppression of human dorsal anterior insula responsivity at loss of volitional behavioral response
Anesthesiology 124(4):766-78
- Mars RB, Foxley S, **Jbabdi S**, Sallet J, Noonan MP, Neubert FX, Andersson JL, Verhagen L, Croxson PL, Dunbar RIM, Khrapitchev AA, Sibson N, Miller KL, & Rushworth MFS
The extreme capsule fiber complex in humans and macaques: A comparative diffusion MRI tractography study
Brain Structure and Function (Epub)
- Mollink J, van Baarsen KM, Dederen PJWC, Foxley S, Miller KL, **Jbabdi S**, Slump CH, Grotenhuis JA, Kleinnijenhuis M, van Cappellen van Walsum AM (2015)
Dentatorubrothalamic tract localization with post mortem MR Diffusion Tractography compared to histological 3D reconstruction
Brain Structure and Function (Epub)
- van Baarsen K, Kleinnijenhuis M, **Jbabdi S**, Sotiropoulos SN, Grotenhuis A, van Cappellen van Walsum A (2015)
A probabilistic atlas of the cerebellar white matter
NeuroImage 124(Pt A):724-32
- Boccard SG, Fernandes H, **Jbabdi S**, Hartvelt TJ, Kringelbach ML, Quaghebeur G, Moir L, Mancebo VP, Pereira EA, Fitzgerald JJ, Green AL, Stein J, Aziz TZ (2015)
A tractography study of Deep Brain Stimulation of the Anterior Cingulate Cortex in chronic pain: a key to improve the targeting
World Neurosurgery 86:361-370
- Vu AT, Auerbach E, Lenglet C, Moeller S, Sotiropoulos SN, **Jbabdi S**, Anderson J, Yacoub E, Ugurbil K (2015)
High resolution whole brain diffusion imaging at 7T for the Human Connectome Project
NeuroImage 15;122:318-31
- Berns GS, Cook PF, Foxley S, **Jbabdi S**, Miller KL, Marino L (2015)
Diffusion tensor imaging of dolphin brains reveals direct auditory pathway to temporal lobe.
Proc Royal Society B 282(1811)

- Ezra M, Faull OK, **Jbabdi S**, Pattinson KTS (2015)
Connectivity based segmentation of the periaqueductal gray matter in human with brainstem optimised diffusion MRI
Human Brain Mapping 36(9):3459-71
- Voets NL, Menke RAL, **Jbabdi S**, Husain M, Stacey R, Carpenter K, Adcock JE (2015)
Thalamo-cortical disruption contributes to short-term memory deficits in patients with medial temporal lobe damage
Cerebral Cortex 25(11):4584-95
- Kochunov P, Jahanshad N, Marcus D, Winkler A, Sprooten E, Nichols TE, Wright SN, Hong LE, Patel B, Behrens T, **Jbabdi S**, Andersson J, Lenglet C, Yacoub E, Moeller S, Auerbach E, Ugurbil K, Sotiropoulos SN, Brouwer RM, Landman B, Lemaitre H, den Braber A, Zwiers MP, Ritchie S, van Hulzen K, Almasy L, Curran J, deZubicaray GI, Duggirala R, Fox P, Martin NG, McMahon KL, Mitchell B, Olvera RL, Peterson C, Starr J, Sussmann J, Wardlaw J, Wright M, Boomsma DI, Kahn R, de Geus EJ, Williamson DE, Hariri A, van 't Ent D, Bastin ME, McIntosh A, Deary IJ, Hulshoff Pol HE, Blangero J, Thompson PM, Glahn DC, Van Essen DC.(2015)
Heritability of fractional anisotropy in human white matter: A comparison of Human Connectome Project and ENIGMA-DTI data
NeuroImage 111:300-11
- Sampaio-Baptista C, Khrapitchev A, Foxley S, Schlagheck T, Scholz J, **Jbabdi S**, De Luca G, Miller KLM, Taylor A, Thomas N, Kleim J, Sibson N, Bannerman DM, Johansen-Berg H (2013)
Motor skill learning induces changes in white matter microstructure and myelination
Journal of Neuroscience 33(50):19499-503
- Fogel SM, Albouy GA, Vien C, Popovicci R, King BR, Hoge R, **Jbabdi S**, Benali H, Karni A, Maquet P, Carrier J, Doyon J (2013)
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